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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:

Hans Josef RINNINGER

Application No. 09/826,414

Filed: April 5, 2001

For: SHAPED PAVESTONE

Art Unit: 3673

Examiner: R. Addie

Atty. Docket No. 31530-171041

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BRIEF ON APPEAL

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

This is an appeal from the final Office Action dated October 27, 2003.

/

I. Real Party in Interest

The real party in interest is Hans Rinninger u. Sohn GmbH & Co. Betonwarenfabriken of
Stolzenseestrasse 9, D-88353 Kisslegg, Germany, by virtue of an Assignment recorded on July
16, 2001 at Reel 011982, Frame 0829.

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II. Related Appeals and Interferences

There are no related appeals or interferences.

III. Status of Claims

Claims 1-8 and 12-23 stand finally rejected. The final rejection of claims 1-8 and 12-23 is appealed. No claims have been allowed. Claims 9-11 have been cancelled.

IV. Status of Amendments

No amendments have been filed after the final Office Action.

V. Summary of the Invention

The present invention relates to a molded block having different geometric structures on different faces that can be used as desired to configure a paving-stone surface. Depending on whether a planar block face or a curved block face is facing upward, a very different appearance can be provided for the paving-stone pavement. In the case where the molded block is basically cubical, the block can be oriented with any face on top, and the level of that face will be at the same level as the top faces of all of the other blocks according to the invention that are in the same pavement (page 2 of the specification, line 19 - page 3, line 17; Figs 1a, 1b, 1c and 4).

In one embodiment of the invention, some faces of the blocks are provided with “clothoids”. Such faces have a rounded portion towards the edge region, the radius of curvature decreasing constantly toward the side edge (page 3, line 36 - page 4, line 2; page 6, lines 6-14).

The cube-shaped block of Fig. 1a makes it possible to rotate the block in all directions about the axes of rotation 25, 26 and 27, in each case through 90° or 180° (page 7, lines 18-21).

If the block of Fig. 1a is doubled by the length $2L$, then the result is the block form of Fig. 2a with a longer side edge $2L$, with a shorter side edge L and a height L (page 8, lines 2-5). Since the side faces 33, 35 substantially have a square cross-section, the block of Fig. 2a can be rotated about a horizontal longitudinal axis $25'$ (arrow 29). As a result, the rear side 36 comes into the upper position (Fig. 2b). If an equally high surface of the blocks is desired, the block of 2a can merely be rotated in 90° steps about the horizontal axis (Page 8, lines 16-26).

The block of Fig. 2 can be considered to comprise two cube structures of Fig. 1 located beside each other. Then, in the embodiment of Fig. 3, the effect is four basic stones laid beside one another in their cube form (page 8, lines 31-35). In order to form an equal height layer in a laid pavement, the fourfold block of Fig. 3 can be rotated through 90° or 180° about the vertical axis of rotation 27 (page 9, lines 13-17). The block forms of the pavement of Fig. 4 can be varied as desired (page 11, lines 1-3).

A face of the molded block can form a clothoid toward a side edge over approximately $1/4$ to $1/6$ of the cube length L (original claim 7; Figs. 1a-c).

At least one side edge between two side faces of the block or between side faces and an upper or lower face can be sharp-edged (original claim 8; Figs. 1a-c).

VI. Issues

The issues are:

1. Whether the Examiner erred in rejecting claims 1, 2, 5-8, 12-15 and 18-23 under 35 USC § 103(a) as being unpatentable over McClintock (U.S. Patent No. 957,985) in view of Rinninger (U.S. Patent No. 4,792,257); and

2. Whether the Examiner erred in rejecting claims 3, 4, 16 and 17 under 35 USC § 103(a) as being unpatentable over McClintock in view of Rinninger '257 as applied to claims 1 and 14, and further in view of Rice (U.S. Patent No. 3,008,256).

VII. Grouping of Claims

Claims 2, 7, and 8 stand or fall with claim 1, and claims 15, 20 and 21 stand or fall with claim 14. It is submitted that the allowability of each of the other claims should be determined individually.

VIII. Argument

1. Whether the Examiner erred in rejecting claims 1, 2, 5-8, 12-15 and 18-23 under 35 USC § 103(a) as being unpatentable over McClintock (U.S. Patent No. 957,985) in view of Rinninger (U.S. Patent No. 4,792,257).

Independent claims 1 and 14 are directed to a molded block for a paving-stone covering having, among other structure, approximately the shape of a cube, wherein at least a first one of the faces of the molded block is substantially planar over substantially its entire surface area, and at least a second one of the faces has at least one rounded portion extending toward one side edge of the molded block over at least 1/6 of the at least one face. Claim 1 calls for the distances

between the planar portions of the opposite faces of the molded block to be substantially equal, whereas claim 14 calls for the molded block to have three sets of opposite faces, wherein the distance between the planar portions of each set of opposite faces is substantially equal to the distance between the planar portions of each other set of opposite faces.

The McClintock patent discloses paving material comprising very small cubes which are designed to be laid as is ordinarily done with broken stone (page 1, lines 34-36). Specifically, the cubes are two inches on each side (page 1, lines 32, 33) and are not designed to be laid in a carefully chosen pattern to give a variegated appearance in the laid paving stone pattern. Instead, the two-inch cubes are dumped from a conveying cart on a smooth foundation surface and spread out with stone forks or potato hooks (page 1, lines 36-44). The cubes are then raked together as closely as possible by means of the forks or rakes and, finally, the spaces between the cubes are filled with pitch, grout, cement, mortar or other suitable material (page 1, lines 46-50). The resulting paving stones will have a haphazard orientation relative to one another, and there is no intent in McClintock for the two-inch cubic paving material to provide an improved or ornamental appearance.

The Examiner contends that it would have been obvious to provide rounded edges on the two-inch cubical blocks of the McClintock paving material in order to provide a more natural appearance to the blocks. However, the paved surface being provided in the McClintock patent is a utilitarian road surface for both automotive vehicles as well as for vehicles drawn by animals (page 1, lines 98 – 109). In contrast, the paving stones of the Rinninger '257 patent are for garden walkways (column 1, lines 6-8). Providing a natural appearance is of no concern in the

McClintock patent, and a person with ordinary skill in the art would have seen no need for the cubes to be modified so that they provide a more natural appearance. Furthermore, the pitch, grout, cement, mortar or other material filling the spaces between the cubes of McClintock is likely to at least partially cover any rounded corners that might be put on the cubes and, thus, defeat the purpose of achieving a natural appearance like that achieved in the Rinninger '257 patent. A part of the object of the Rinninger '257 patent is a shaping which allows the existence of interspaces between the paving stones laid against one another (column 1, lines 45-49). However, since the 2-inch cubes of McClintock are dumped from a cart and merely raked together and then the spaces between them filled with pitch, grout, cement or the like, the shaping object of the Rinninger '257 invention does not apply to the cubes or pavement of McClintock. One of the advantages of the McClintock patent is the avoidance of the necessity of skilled labor, which is ordinarily required in laying a pavement (page 1, lines 70-72). Considering the different types of surface and the difference in size between the paving stones of the Rinninger patent and the cubical blocks of the McClintock patent, a person with ordinary skill in the art would not have considered applying the teachings of the Rinninger '257 patent to the cubical blocks disclosed in the McClintock patent.

In addition, the haphazard method in which the cubes of McClintock are applied to the foundation surface means that the resulting cubes would have a random orientation and would in most cases be oriented without the face having the rounded corners facing upwardly and, thus, would defeat the purpose of achieving a natural appearance like that achieved in the Rinninger patent.

Furthermore, even though Rinninger '257 discloses rounded portions extending as much as $1/6$ of the paving stone face on which the rounded portion is formed, there would have been no incentive for one of ordinary skill in the art to place on the two-inch blocks of McClintock rounded corners that extend over at least $1/6$ of their faces. The fact that the corners of the McClintock blocks could have been made that way does not mean that it would have been obvious to do so.

Moreover, claim 1 calls for at least a first one of the faces of the molded block being substantially planar over substantially its entire surface area. Two such faces of the molded block according to the present invention are the face 2 on the top of the block as shown in Fig. 1a and face 2' shown at the right front in Fig. 1b. In contrast, the Rinninger '257 patent discloses no face that is substantially planar over substantially its entire surface area. For example, the plan view of Fig. 2a of Rinninger shows that the top, bottom, left and right faces of that figure all have at least one rounded portion that keeps it from being substantially planar. With respect to the surface shown in plan in Fig. 2a, it can be seen that the corner regions 28-30 each define a clothoid (column 5, lines 20-22), thereby preventing the surface at the top of Fig. 2b and shown in plan in Fig. 1b from being a face that is substantially planar over substantially its entire surface area.

Claim 5 depends on claim 1 and calls for the radius of curvature of the rounded portion to decrease constantly toward the side edge. Similarly, claim 18 depends on claim 14 and calls for the radius of curvature of the rounded portion to decrease constantly toward the side edge. Using the rationale presented above in connection with claims 1 and 14 concerning the unobviousness

of placing rounded portions on the two-inch cubes of McClintock, it would have been even more unobvious to make rounded portions having a radius of curvature which decreases constantly toward the side edge. Similarly, with respect to claims 6 and 19, it would have been even less obvious to form the two-inch cubes of McClintock with a clothoid extending toward the side edge over approximately $1/4$ to $1/6$ of the cube length.

Claim 12 depends on claim 1 and calls for the molded block to have two opposite faces which are substantially planar over their entire surface areas. Similarly, claim 22 depends on claim 14 and calls for the molded block to have two opposite faces which are substantially planar over their entire surface areas. Such opposite substantially planar faces are, for example, face 2 on the top of the block as shown in Fig. 1a and face 2' shown at the front right in Fig. 1b. In contrast, the Rinninger '257 patent discloses no faces which are substantially planar over their entire surface areas. For example, the plan view of Fig. 2a of Rinninger shows that the top, bottom, left and right faces of that figure all have at least one rounded portion that keeps it from being substantially planar. With respect to the surface shown in plan in Fig. 2a, it can be seen that the corner regions 28-30 each define a clothoid (column 5, lines 20-22), thereby preventing the surface at the top of Fig. 2b and shown in plan in Fig. 1b from being a face that is substantially planar over its entire surface area.

To have modified the two-inch blocks of McClintock to include clothoid corners at just enough corners to lead to substantially planar faces opposite one another would have been an improper picking and choosing of certain features from a modifying reference while leaving others behind. Such a modification would not have been obvious.

Claim 13 calls for a laid set of blocks comprising molded blocks according to claim 1, wherein the blocks are laid adjacent to one another in a pattern wherein some of the blocks have as their upper surfaces faces which are substantially planar over substantially their entire surface areas. Similarly, claim 23 calls for a laid set of blocks comprising molded blocks according to claim 14, wherein the blocks are laid adjacent to one another in a pattern wherein some of the blocks have as their upper surfaces faces which are substantially planar over substantially their entire surface areas. For the reasons presented above in connection with claims 1 and 14, it would not have been obvious to provide on some of the blocks of McClintock et al., as the upper faces of laid blocks in a pattern, faces that are substantially planar over their entire surface areas. Furthermore, even if some of the blocks of McClintock et al. had one or more faces that were substantially planar over their entire surface areas, it would be a matter of chance whether such faces ended up facing upward after the blocks were dumped from a cart, spread out, and then raked together.

2. Whether the Examiner erred in rejecting claims 3, 4, 16 and 17 under 35 USC § 103(a) as being unpatentable over McClintock in view of Rinninger '257 as applied to claims 1 and 14, and further in view of Rice (U.S. Patent No. 3,008,256).

Claims 3 and 16 are directed to a set of molded blocks comprising a first molded block according to claims 1 and 14, respectively, a second molded block having an oblong shape, with a width and height of edge dimension L equal to that of the cube, and a length of edge dimension 2L, whereby the second molded block can be rotated through 90° and/or 180° about its horizontal longitudinal axis during laying, with a constant block height.

The Rice reference discloses a grooved ceramic tile for decorating coffee tables, end tables, wall surfaces and the like, wherein the tile can be sub-divided into a variety of shapes. Its disclosure does not overcome the deficiencies of McClintock and Rinninger, as discussed above in connection with claims 1 and 14. Furthermore, it does not suggest the additional structure of claims 3 and 16. Furthermore, to have made the two-inch cubes of McClintock such that some have a length twice the length of others, would disrupt the intended operation of the McClintock system. More specifically, if some of the blocks of McClintock were two inches in one direction and four inches in another direction, there would be a tendency for some of the blocks to end up oriented with the four-inch dimension vertical, thereby projecting above the other blocks in the road surface, after the blocks had been spread, then raked together.

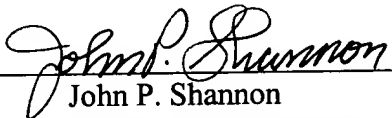
Claims 4 and 17 depend on claims 1 and 14, respectively, and are directed to a set of molded blocks, wherein a second molded block is square in plan view and has the dimensions of four cubes with the size of a first block lying beside one another. It is submitted that claims 4 and 17 are allowable for reasons similar to those set forth for claims 3 and 4. In addition, there is no suggestion in any of the references of one block being square in plan view and having the dimensions of four cubes with the size of the first block lying beside one another.

In view of the foregoing, it is submitted that the Examiner's rejection should not be sustained, and a decision to that effect is respectfully requested.

A check is enclosed for the submission of this Appeal Brief. However, if any additional fee is due, the Commissioner is hereby authorized to charge and/or credit any fees to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 1-21-04


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X. APPENDIX

1. A molded block for a paving-stone covering, made of concrete, having approximately the shape of a cube, each face of said molded block having at least a portion which is planar, the distances between the planar portions of the opposite faces of said molded block being substantially equal, at least a first one of the faces of said molded block being substantially planar over substantially its entire surface area, at least a second one of said faces having at least one rounded portion extending toward one side edge of said molded block over at least 1/6 of said at least one face.

2. A molded block according to claim 1, wherein said molded block is shaped and the molded block faces are formed so that each of the molded block faces can be used as a horizontal upper face at the same height during laying.

3. A set of molded blocks made of concrete comprising a first molded block according to claim 1, a second molded block having an oblong shape, with a width and height of edge dimension L equal to that of said cube and a length of edge dimension 2L, whereby said second molded block can be rotated through 90° and/or 180° about its horizontal longitudinal axis during laying, with a constant block height.

4. A set of molded blocks made of concrete comprising a first molded block according to claim 1, and a second molded block in the form of a one-piece block which is square in plan view and with dimensions of four cubes with the size of said first mentioned cube lying beside one another.

5. A molded block according to claim 1, wherein the radius of curvature of the rounded portion moving toward said side edge is formed as a curve with, in plan view or side view, a radius of curvature which decreases constantly toward the said side edge.

6. A molded block according to claim 1, wherein a face of the molded block is shaped to form a clothoid extending toward said side edge over approx. $\frac{1}{4}$ to $\frac{1}{6}$ of the cube length.

7. A molded block according to claim 1, wherein at least one side edge of said molded block is formed to be sharp-edged.

8. A molded block according to claim 1, having clothoidal rounded portions on at least two opposing side faces.

9-11 (Canceled)

12. A molded block as recited in claim 1, wherein said molded block has two opposite faces which are substantially planar over their entire surface areas.

13. A laid set of blocks comprising molded blocks according to claim 1, laid adjacent to one another in a pattern wherein some of said molded blocks of said set have as their upper surfaces the faces which are substantially planar over substantially their entire surface areas and some of said molded blocks of said set have as their upper surfaces the faces having rounded portions, wherein the upper surface of each of the blocks of said set is at the same height.

14. A molded block for a paving-stone covering, made of concrete, having approximately the shape of a cube and having three sets of opposite faces, each face of said molded block having at least a portion which is planar, the distance between the planar portions of each set of opposite faces being substantially equal to the distance between the planar portions of each other set of opposite faces, at least a first one of the faces of said molded block being substantially planar over substantially its entire surface area, at least a second one of said faces having at least one rounded portion extending toward one side edge of said molded block over at least 1/6 of said at least one face.

15. A molded block according to claim 14, wherein said molded block is shaped and the

molded block faces are formed so that each of the molded block faces can be used as a horizontal upper face at the same height during laying.

16. A set of molded blocks made of concrete comprising a first molded block according to claim 14, a second molded block having an oblong shape, with a width and height of edge dimension L equal to that of said cube and a length of edge dimension $2L$, whereby said second molded block can be rotated through 90° and/or 180° about its horizontal longitudinal axis during laying, with a constant block height.

17. A set of molded blocks made of concrete comprising a first molded block according to claim 14, and a second molded block in the form of a one-piece block which is square in plan view and with dimensions of four cubes with the size of said first mentioned cube lying beside one another.

18. A molded block according to claim 14, wherein the radius of curvature of the rounded portion moving toward said side edge is formed as a curve with, in plan view or side view, a radius of curvature which decreases constantly toward the said side edge.

19. A molded block according to claim 14, wherein a face of the molded block is shaped to form a clothoid extending toward said side edge over approx. $1/4$ to $1/6$ of the cube length.

20. A molded block according to claim 14, wherein at least one side edge of said molded block is formed to be sharp-edged.

21. A molded block according to claim 14, having clothoidal rounded portions on at least two opposite faces.

22. A molded block as recited in claim 14, wherein said molded block has two opposite faces which are substantially planar over their entire surface areas.

23. A laid set of blocks comprising molded blocks according to claim 14, laid adjacent to one another in a pattern wherein some of said molded blocks of said set have as their upper surfaces the faces which are substantially planar over substantially their entire surface areas and some of said molded blocks of said set have as their upper surfaces the faces having rounded portions, wherein the upper surface of each of the blocks of said set is at the same height.